ABSTRACT OF THE DISCLOSURE

A technique for observability-based coverage, and in particular for observability-based line coverage, of a design under test (DUT) is presented.

The value of a conventional simulation signal, comprised of a logical value, is augmented to include a "tag value."

Logical values are propagated during the course of simulation, in the preferred embodiment, by a conventional Simulation Process while tag values are propagated by a Monitoring Process.

In the course of a simulation, the execution of every assignment statement (for which observability-based coverage is desired) "injects" (or produces) a tag value on its output signal. This injected tag contains an identifier which uniquely identifies the assignment statement that produced it (this is referred to as the "tag ID").

A tag value also contains a "tag history." The tag history of a tag value X being injected by an assignment statement Y, contains copies of the tag values for assignment statements, earlier in the flow of control or in the flow of data, which are effecting the logical value of the signal being produced by assignment statement Y. The tag history of a tag value X is structured to reflect the sequence in which these earlier assignment statements have effected the logical value of assignment statement Y.

If a tag is propagated through the DUT such that it appears at an observable output, then the circuit designer knows (from the tag history) that the assignment statements it identifies have satisfied observability-based line coverage.